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Results of two studies of the ability to use specific context clues and possible academic correlates of this ability are reported. In the first study, a five-form data-gathering instrument, using categories of context clues derived from Artley, Betts, and McCullough, was administered to 315 tenth-grade students in Seattle, Washington. Simulated words were employed in the text, and use of context clues was checked through multiple choice responses. Sex, age, IQ, and academic ranks and scores were used as premeasures. Results led to the conclusion that verbal reasoning was the best predictor of success in using context clues. In the second study, a two-form data-gathering instrument, using discriminating items from the first, was administered to 52 Madison, Wisconsim, eighth-grade students. In this phase, ability to use context clues was positively and significantly correlated with IQ and with vocabulary and comprehension scores. General conclusions support those of earlier studies. General intelligence, verbal abilities, reading vocabulary, and comprehension ability appear to be closely related to the ability to use context clues in reading. Girls and those under-age for their grade level are better at this skill than are boys and those over-age for their grade level. References and tables are included. (MD)

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CORRELATES OF THE ABILITY TO USE CONTEXT CLUES IN READING

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Introduction. The ability of readers to use context clues in reading has long been of interest to theoreticians of reading. Practically every major authority in the field has recommended it as an important skill to be cultivated and taught. This is demonstrated by the popular word-attack "formula" CSSD (Context-Structure-Sound-Dictionary), which places it first in a hierarchy of strategies for approaching the pronunciation and meaning of an unfamiliar word. Gates (6) cited its greatest value:

> It (this method) possesses the merit of placing comprehension foremost . . . (it) introduces the minimum of distraction from the thought . . . (it is) the most intelligent and rapid device of learning new words.

Definition of the Study. Despite many admonitions from authorities, however, rather little empirical research on context clues has been done. The classic theoretical articles on the topic are by Artley (2), McCullough (13), and Betts (3), but all three expositions were primarily "armchaired." That is, though analytical and highly methodical in positing hierarchies and categories, and certainly valuable in terms of

focusing teacher attention upon the importance of stressing this skill with students, none of the three treatments was based to any great extent upon empirical investigation.

The lists of possible "types" of context clues elucidated by these three writers varied in length; Artley posited ten general classes of contextual aid, McCullough cited seven, and Betts suggested eleven. Present in all three lists were the following five major types:

1. CONTRAST, where meaning of the new word is developed through the posing of an exact opposite meaning,
2. LINKED SYNONYMS AND/OR APPOSITIVES, where the new word is paired with synonyms or synonymous phrases,
3. DIRECT DESCRIPTION, where definitive and/or descriptive passages precede or follow the new word,
4. LANGUAGE EXPERIENCE, where the new word is inserted in such a linguistic or experiential setting as to somewhat "automatically" (with little or no conscious mental manipulation required) lead the reader to the substitution of the appropriate meaning, and
5. CAUSE-EFFECT RELATIONSHIPS, where the meaning of the new word can be inferred by reasoning from cause to effect or vice versa.

Since these five categories seemed to be relatively agreed-upon, it was in terms of their use that the present study proceeded. Other categories of contextual aid undoubtedly exist also, but the definition of this paper's title term will hereafter be limited generally to facility with these five categories only. Based upon their a priori existence, tests were devised employing them in generating noun-meanings, verb-

meanings, adjective-meanings, and adverb-meanings, and the results of these tests were then correlated with available other data on the subjects.

Relevant Prior Research. As noted previously, little prior research exists that investigates the correlates of the use of context clues per se, though a greater amount of study has been made of "cloze" abilities (the ability to substitute equivalents for words randomly or categorically deleted from running prose irrespective of the specific contextual setting). Since the two tasks would appear to be similar in nature, both bodies of information ought probably to be considered.

Stearns (4) found that, at the high school level, ability to use context correlated .77 with vocabulary and .65 with general-comprehension as measured by the Cooperative Reading Comprehension Test. Looby (12) at the elementary level, and Gibbons (7) and Hafner (9) at the college level, found substantial correlations with intelligence.

Ames (1), after employing a fundamentally introspective method to study thought processes employed during "cloze" exercises, concluded that grammar knowledge was an important correlate to use of context, with knowledge of word-order relationships, word classes, and syntactical patterns imposing certain "predisposing conditions" associated with the skill.

Concerning personality factors and success at use of context, Hafner (9) found negative relationships between skill with context and anxiety, Honigfeld et al (11) found negative correlations with authoritarianism, and Harootunian and Tate (10), who approached the use of context as a kind of problem-solving, found that general reading ability, test intelligence, judgment, and problem-recognition abilities were the best predictors of success.

Finally, Fletcher (5) found significant correlations between ability to use context and reading comprehension, rate of reading, and reading vocabulary, as well as with general linguistic and quantitative ability as measured by the American Council on Education Psychological Examination for College Freshmen.

In summary, then, previous research had indicated that ability to utilize context per se was related to (a) intelligence, (b) reading comprehension, (c) vocabulary level, (d) verbal and linguistic abilities, (e) grammar knowledge, and (f) various personality factors such as absence of anxiety and lack of authoritarianism.

Correlates of the ability to use specific context clues, however, and particularly possible academic correlates, remained to be investigated. It was towards this goal, then, that this study was directed.

Description of the Study. There were two stages to the total study. First, a five-form data-gathering instrument, within which each of the five Artley-McCullough-Betts devices were used to develop twenty-five noun-meanings, twenty-five verb-meanings, twenty-five adjective-meanings, and twenty-five adverb-meanings, was constructed and administered to 315 Seattle, Washington, tenth-graders. Their responses were then statistically analyzed and compared with the pre-measures of sex, age in months, and Differential Aptitude Test subscores for Verbal Reasoning, Abstract Reasoning, and Grammar Knowledge. This stage of the study is reported more completely elsewhere (4).

Next, a two-form version of the original instrument, utilizing only the "best" discriminating items used in the first version, was developed. This version was administered to 52 Madison, Wisconsin, eighth-graders.

Pre-measures available at this point were (a) sex, (b) age, (c) verbal, non-verbal, and full-scale intelligence scores, plus (d) several academic and scholastic rankings and scores.

Both versions of the test employed simulated words (rather than the blanks commonly employed in "cloze" research) within the running context, and both versions measured meaning-acquisition through five-foil multiple-choice tests following each example. In both cases, item-orders were "rolled" to offset learning effects, and test answer-foils were offered in alphabetical order to randomize answer positions.

Results. The results of the first phase of the study are reported in Table 1. All three DAT pre-measures were highly correlated with the ability

/ Insert Table 1 about here /

in question, but all three were also highly correlated with one another. Therefore, in order to determine if the differences in levels of correlation were significant, the Hotelling (8) was applied.

Within the total group, Verbal Reasoning and Grammar Knowledge correlated significantly ($p < .05$) higher with ability to use context than did Abstract Reasoning, though Verbal Reasoning was not significantly higher than was Grammar Knowledge. For girls alone, no significant differences for level of correlation were found; but for boys, Verbal Reasoning was significantly more highly correlated than was Abstract Reasoning. Verbal Reasoning was not significantly higher than Grammar Knowledge, however, nor was Grammar Knowledge significantly higher than Abstract Reasoning.

A general conclusion at this point, then, was that, of the DAT pre-measures, Verbal Reasoning was the best overall predictor of success.

Male sex and age both correlated negatively and significantly ($p < .05$) not only with ability to use context but also with all three DAT subscores. Neither finding was considered a surprise; girls are generally ahead of boys in verbal abilities at this age, and the "over-age" among the tenth-graders would have been expected to be the less verbally facile.

Table 2 presents the results of the second phase of the study. Ability

/ Insert Table 2 about here /

to use context clues was positively and significantly ($p < .001$) related to Lorge-Thorndike Verbal scores, Lorge-Thorndike Full I. Q. scores, and Gates MacGinitie Vocabulary and Comprehension scores, with none of the four correlations significantly higher than any other.

Intercorrelations observed were about as would be expected; reading comprehension and reading vocabulary were closely related to verbal and intellectual factors, and the "mechanics" type of scholastic skills were closely inter-related one with another. Rate of reading correlated significantly only with Lorge-Thorndike Verbal scores, and <u>not</u> with reading comprehension or reading vocabulary. Because of the much lower N in the second phase of the study, only correlations statistically significant to at least the .01 level or better are reported for this section.

<u>Conclusions</u>. Generally, the conclusions to be drawn from this study simply support those of earlier studies; general intelligence, verbal abilities generally, and reading vocabulary and comprehension ability appear to be closely related to the ability to utilize context clues in reading. Girls and those under-age for their grade level are better at this skill than are boys and those over-age for their grade level.

Despite this, however, this study does have some particular strengths. Because it employed a much more precise data-gathering instrument than have most studies similar to it, and because it dealt with the ability to use specific contextual aids rather than simply general context, its findings add to, rather than simply replicate, those dealing with "cloze" research in general. Though the two abilities are undoubtedly similar, they are, nonetheless, still different ones, and should be considered separately as well as together.

References

1. Ames, Wilbur S. "The Development of a Classification Scheme of Contextual Aids," Reading Research Quarterly, 2: 57-82 (Fall, 1966).
2. Artley, A. Sterl. "Teaching Word Meaning Through Context," Elementary English Review, 20: 68-74 (February, 1943).
3. Betts, Emmett A. Foundations of Reading Instruction. New York: American Book Company, 1946, pp. 601-602.
4. Dulin, Kenneth L. The Role of Contextual Clues in the Acquisition of Specific Reading Vocabulary by Mature Readers. Unpublished Doctoral Dissertation, University of Washington, 1968. Presented as an Outstanding Dissertation, International Reading Association 1969 Convention, Kansas City, Missouri.
5. Fletcher, J. E. A Study of the Relationships Between Ability to Use Context as an Aid to Reading and Other Verbal Abilities. Unpublished Doctoral Dissertation, University of Washington, Seattle, 1959.
6. Gates, Arthur I. The Improvement of Reading (Revised Edition). New York: Macmillan, 1935, pp. 241-242.

7. Gibbons, H. "The Ability of College Freshmen to Construct the Meaning of a Strange Word from the Context in Which It Appears," Journal of Experimental Education, 9: 29-33 (September, 1940).

8. Guilford, J. P. Fundamental Statistics in Psychology and Education (Fourth Edition). New York: McGraw-Hill, 1965, pp. 190-191.

9. Hafner, Lawrence F. "A One-Month Experiment in Teaching Context Aids in the Fifth Grade," Journal of Educational Research, 58: 472-474 (December, 1959).

10. Harootunian, B., and M. W. Tate. "The Relationship of Certain Selected Variables to Problem Solving Ability," Journal of Educational Psychology, 51: 326-333 (December, 1960).

11. Honigfeld, G., A. Platz, and R. D. Gillis. "Verbal Style and Personality: Authoritarianism," The Journal of Communication, 14: 215-218 (Dec. 1959).

12. Looby, R. "Understandings Children Derive From Their Reading," Elementary English Review, 22: 2-3 (January, 1955).

13. McCullough, Constance M. "Learning to Use Context Clues," Elementary English Review, 20: 140-143 (April, 1943).

14. Stearns, G. B. The Construction and Evaluation of a Test Designed to Measure the Ability of High School Pupils to Understand Word Meanings Through the Use of Context. Unpublished Doctoral Dissertation, Boston University, 1954.

Table 1

CORRELATIONS BETWEEN ABILITY TO USE CONTEXT CLUES AND VARIOUS PRE-MEASURES

	Age in Months	Verbal[2] Reasoning	Abstract[2] Reasoning	Grammar[2] Knowledge	Use of Context
Sex[1]	.063	-.129*	-.146**	-.112*	-.201**
Age		-.530**	-.146**	-.146**	-.169**
VR			.656**	.752**	.593**
AR				.624**	.520**
GK	TOTAL SAMPLE	N = 315			.588**
Age		-.133	-.267**	-.084	-.149
VR			.658**	.785**	.589**
AR				.685**	.558**
GK	GIRLS ONLY	N = 158			.625**
Age		-.167*	-.081	-.189*	-.169*
VR			.640**	.711**	.589**
AR				.529**	.470**
GK	BOYS ONLY	N = 157			.528**

[1] For this correlation, male sex was designated 1.0 and female sex was designated 0.0. Thus, the correlations reported with this one factor are Point Biserial ones, rather than Pearsons.

[2] DAT Sub-scores.

* $p < .05$
** $p < .01$

Table 2

INTERCORRELATIONS BETWEEN ABILITY TO USE CONTEXT CLUES IN READING AND VARIOUS OTHER ACADEMICALLY-RELATED FACTORS

	Age in Months	Male Sex	L. Th. Verbal	L. Th. Non-V.	L. Th. I.Q.	G. McG. Vocab.	G. McG. Comp.	ITBS Spell.	ITBS Cap.	ITBS Punct.	ITBS Usage	STEP[1] Rate
Use of Context Clues	.135	.021	.542**	.061	.504**	.472**	.475**	.250	.278	.325	.264	.135
Age in Months		.028	.034	-.091	-.188	.124	.000	-.052	-.052	-.019	-.004	-.083
Male Sex[3]			.048	.018	.056	-.069	.230	-.371*	-.235	-.398*	-.285	-.148
Lorge Thorndike Verbal				.137	.625**	.754**	.569**	.333	.303	.414*	.219	.546**
Lorge Thorndike Non-Verbal					.716**	.179	.097	.211	.086	.189	.052	.167
Lorge Thorndike Full I.Q.						.519**	.802**	-.214	.241	.286	.132	.144
Gates-MacGinitie Vocabulary							.227	.352	.352	.061	.011	.216
Gates-MacGinitie Comprehension								.155	-.044	.256	.057	.076
I.T.B.S. Spelling									.510**	.491**	.427*	.240
I.T.B.S. Capitalization										.830**	.525**	.292
I.T.B.S. Punctuation											.624**	.116
I.T.B.S. Usage												.118

[1] Sequential Tests of Educational Progress
[2] Iowa Test of Basic Skills
[3] Correlations with Sex are Point Biserials; others are Pearsons

** $p < .001$
* $p < .01$